THE DU MONT 1951 NATIONAL TELEVISION ALLOCATION PLAN

May 22, 1951

Research Division
ALLEN B. DU MONT LABORATORIES, INC.
2 Main Avenue Passaic, N. J.

ALLEN B. DU MONT LABORATORIES, INC.
2 Main Avenue Passaic, N. J.

THE DU MONT 1951 NATIONAL TELEVISION ALLOCATION PLAN

On March 22, 1951, the F.C.C. released a National Television Allocation Plan for consideration by all interested parties. An open Hearing on this Plan is scheduled to begin on July 9, 1951.

Du Mont has made a very extensive study of this Plan and has reached the conclusion that its adoption would not be in the best interest of the American people. Accordingly, Du Mont has prepared its own Allocation Plan in accordance with priorities which it believes will make maximum use of the television spectrum in the public interest.

This Volume contains the essential features of the Du Mont Plan as follows:

1- A "Memorandum of Information" which outlines the principles involved.

2- A description of the "Television Allocation Demonstrator".

3- Two lists showing the city-by-city comparison of assignments under the two plans.

   a) The first of these contains all cities where assignments are made listed alphabetically by States.

   b) The second list contains only the top 320 television areas which are listed according to population rank. These two lists will permit more leisurely study of individual cases than is possible with the "Television Allocation Demonstrator".

4- A tabulation of answers to the questions used in the Television Allocation Demonstration.

ALLEN B. DU MONT LABORATORIES, INC.

MEMORANDUM OF INFORMATION

Allen B. DuMont Laboratories, Inc., has filed with the Federal Communications Commission a statement, with technical exhibits, of its position with respect to the Commission's "Third Notice of Further Proposed Rule Making," of March 22, 1951, more often referred to as its National Television Allocation Plan.

DuMont's basic position is that the FCC allocation plan:

1. Provides generally sound engineering;
2. Is not as efficient as it should be in utilization of the available spectrum space;
3. Will foster network and market monopolies.

DuMont is proposing an alternative allocation plan, based on the same engineering as the FCC plan, which increases in efficiency with increases in population density. It will:

1. Provide more services, or freedom of program choice, to more persons;
2. Make more efficient use of available spectrum space;
3. Place scarce channels in locations most likely to use them; and,
4. Make feasible a fully competitive multi-network operation.

Among the outstanding features of the DuMont Plan, as compared with the FCC allocations are:

1. The DuMont Plan provides more television stations in more communities than FCC.
2. The DuMont Plan makes 655 VHF assignments in 375 communities, as compared with FCC's 557 assignments in 342 communities. (This is an increase of 98 VHF stations, or 17.5 per cent, and an increase of 33 communities served by VHF, or 9.6 per cent.)

(more)

3. In the top 100 population centers, the DuMont Plan allocates 4 or more VHF channels to 47 communities, as against only 18 by FCC;

4. In the top 50 population centers, the DuMont Plan assigns 4 or more VHF channels to 30 communities as compared with only 16 by FCC;

5. In the top 25 population centers, the DuMont Plan allocates 4 or more VHF channels to 21 communities as compared with only 12 by FCC.

6. The DuMont Plan allocates 3 or more VHF channels to 54 of the top 100 population centers as compared with only 44 by FCC;

7. In the top 50 population centers, the DuMont Plan allocates 3 or more VHF channels to 36 communities as against 33 by FCC;

8. In the top 25 population centers, both plans provide 3 or more VHF channels to 23 communities.

ULTRA HIGH FREQUENCY

In addition to the VHF plan heretofore discussed, DuMont has prepared a UHF allocation plan for the entire country.

In the densely populated northeast portion of the country the DuMont plan provides 598 UHF assignments as compared with 537 in the same area by FCC. This is an increase of 61.

DuMont has accepted the principle of intermixing VHF and UHF where necessary in order to provide adequate service and to obviate the necessity of moving presently operating stations to the UHF band.

PRIORITIES

The DuMont presentation points out that the FCC priorities for allocation of stations are unrealistic and were not adhered to by the Commission. DuMont assignments are based on the principle of efficient use of the spectrum to place stations:

1. Where they will serve the largest number of persons and give them the widest choice of programs, while preserving service coverage for the nation's entire geographic area; and,

2. Where they can be economically justified.

(more)

WHIRLWIND PROJECT

DuMont has given recognition to the fallibility of human choice by informing the Commission of inauguration of a project at the Massachusetts Institute of Technology. This project is making use of M. I. T.'s automatic computing machine known as Whirlwind One.

It is proposed to feed into this automatic computer the entire problem of distributing available UHF channels across the nation as a means of eliminating human errors and guesswork.

DuMont is requesting the Commission's permission to submit results of the Whirlwind project when completed.

Sample data already have been fed into the machine with promising results. It is expected that a complete report on Whirlwind computations and station distribution can be given to the Commission during its hearings.

EDUCATIONAL TELEVISION

DuMont commits itself to the policy and belief that television can be a great force in educational and cultural activities. It submits a report on an incomplete survey as indicative of the inability of educational institutions generally to finance the installation and operation of non-commercial broadcasting stations.

Consequently, DuMont proposes that the cause of education, and educators themselves, will be done a disservice if assignments of non-commercial channels are made to educational institutions.

Recommendation is made that all television channels be made available on a commercial basis to such institutions as can qualify in competition with other applicants.

(more)

PIONEERS PROTECTED

The DuMont Plan recognizes that existing operating stations, the pioneers with substantial capital investments, should be changed only where interferences necessitate, and then only to other VHF channels rather than to UHF. In this way the public which already has large investments in VHF receivers may continue to receive those television services without additional expense.

Under the DuMont Plan only 19 changes within the VHF spectrum are necessary, as compared with 31 changes under the FCC plan.

GENERAL CONSIDERATIONS

DuMont set forth in its statement to the Commission that:

> Television is in its infancy. It reaches only a minority of the public and a relatively small geographic portion of the country. It has demonstrated in many dramatic ways its ability to entertain, educate and inform. It is life's new dimension and vivid imagination must be applied to bring full realization of the fact that television is "the most dynamic and effective means of mass communication that modern science has devised."
>
> We believe in its capacity to keep people informed; to stimulate and produce peaceful understanding; to improve relationships among peoples; to lift spiritual and moral levels; to inspire better citizenship; to improve economic conditions; to increase employment, and to raise standards of living.
>
> The American public wants all of these things. We want to help achieve them. Yet we know these goals can be reached only when maximum and most efficient use is made of the spectrum on a truly competitive basis.
>
> The public interest requires that this use be made available at the earliest possible moment consistent with the exercise of great care in arriving at the most efficacious plan.
>
> Decisions on which our most effective means of mass communication is to be operated must be sound, and above all, they must be unassailably in the public interest.

ALLEN B. DU MONT LABORATORIES, INC.
Research Division
2 Main Avenue Passaic, N. J.

DU MONT TELEVISION ALLOCATION DEMONSTRATOR

When comparing two or more television channel allocation plans as to relative merits, one is apt to become confused by the large amount of data handling involved. Du Mont, therefore, to facilitate the orderly presentation and comparison of allocation plans, has constructed demonstration maps of the United States which have small indicator lights placed in the first 320* market areas of the country. Through use of punched cards, proper lights may be selected to answer any of a number of TV Channel Allocation questions. As an auxiliary aid to viewers, six indexing lights have been installed at the side of the map to show whether UHF or VHF, commercial or educational channels on the Du Mont Plan or FCC Allocation Plan, is under consideration.

* Du Mont has consulted a number of recognized authorities in the selection and ranking of these 320 market areas. A more complete explanation of the manner of selection is contained on Page 7 of this Volume.

To use the Allocation Map to best advantage, it is helpful to have a program of data presentation which encompasses only a few well-defined objectives. We shall consider first where television stations are operating as of today, and where the major market areas of the country are located. Such subjects will serve as an introduction to the map's functioning, and will indicate its value for the concise delineation of quantity data.

We shall then consider questions of allocations efficiency and allocations economics, which can best be illustrated by comparing both the Federal Communications Commission and the Du Mont Allocation Proposals. For the moment, the discussion will be limited to VHF channels in the United States and to combined VHF-UHF channels in the area north and east of Memphis, Tennessee.

Our main objective is to show that the Du Mont Allocation Plan is clearly more efficient and, therefore, is to be preferred to the FCC Allocation Plan in that it provides for a much wiser use of a limited natural resource--the frequency spectrum.

(Note: Wherever "FCC Plan" appears, reference is made to the Federal Communications Commission Allocation Plan of March 22, 1951.

Wherever "Du Mont Plan" appears, reference is made to the Du Mont Allocation Plan as filed with the FCC on May 7, 1951.

Wherever "area" or "areas" appear, reference is made to television service areas. A television service area is one of about 50 miles radius in which there are one or more broadcasting stations assigned to serve a concentrated population center or market area.)

There are 320 lights on the map. They represent the top 320 television service areas. All questions and answers are in terms of these 320 areas, unless expressly limited otherwise.

The following list of questions will serve as a basis for the remarks of the Du Mont Commentator:

PART I

EXISTING TELEVISION SERVICE

			Our Ref. #
1.	What areas have primary TV service as of April, 1951?	(63)	1
2.	What areas have only one TV outlet as of April, 1951?	(40)	2
3.	What areas have three or more TV outlets as of April, 1951?	(12)	4
4.	What areas have four or more TV outlets as of April, 1951?	(4)	5

PART II

ECONOMIC, GEOGRAPHIC AND POPULATION REQUIREMENTS

5.	Where are the first 320 areas?	(320)	704
6.	Where are the first 100 ares?	(100)	702
7.	Where are the first 50 areas?	(50)	701
8.	Where are the first 25 areas?	(25)	700

(More)

PART III

COMPARISON OF FCC AND DU MONT PLANS

			Our Ref. #
9.	Under the FCC Plan, what areas have been assigned four or more commercial VHF channels?	(8)	116
10.	Under the Du Mont Plan, what areas have been assigned four or more commercial VHF channels?	(53)	416
11.	Under the FCC Plan, what areas have been assigned three or more commercial VHF channels?	(28)	115
12.	Under the Du Mont Plan, what areas have been assigned three or more commercial VHF channels?	(69)	415
13.	Under the FCC Plan, what areas have been assigned at least one commercial VHF channel?	(213)	111
14.	Under the Du Mont Plan, what areas have been assigned at least one commercial VHF channel?	(220)	411
15.	Under the FCC Plan, what areas are allotted more commercial and educational VHF outlets than under the Du Mont Plan?	(17)	135
16.	Under the Du Mont Plan, what areas are allotted more VHF outlets than the combined commercial and educational VHF outlets under the FCC Plan?	(61)	436

(More)

		Our Ref. #
17.	Under the FCC Plan what areas north and east of Memphis, have been provided with at least one commercial outlet? (154)	101a
18.	Under the Du Mont Plan, what areas north and east of Memphis have been provided with at least one commercial outlet? (155)	401a
19.	Under the FCC Plan, what areas north and east of Memphis have been provided with four or more commercial outlets? (23)	107a
20.	Under the Du Mont Plan, what areas north and east of Memphis have been provided with four or more commercial outlets? (63)	407a
21.	Under the FCC Plan, what areas north and east of Memphis have been provided with three or more commercial outlets? (42)	106a
22.	Under the Du Mont Plan, what areas north and east of Memphis have been provided with three or more commercial outlets? (86)	406a
23.	Under the FCC Plan, which northeastern areas are allotted more services than under the Du Mont Plan? (9)	137a
24.	Under the Du Mont Plan, which northeastern areas are allotted more services than under the FCC Plan? (65)	437a

(More)

ALLEN B. DU MONT LABORATORIES, INC.
Research Division
2 Main Avenue Passaic, N. J.

COMPARISON OF F.C.C. AND DU MONT ALLOCATION PLANS

The following 66 pages present comparatively the F.C.C. 1951 Allocation Plan and the Du Mont 1951 Proposed Allocation Plan.

Examination of these two Plans shows that a very great number of additional assignments could be made in both plans in sparsely settled areas such as the Mountain States. No demand for such assignments is anticipated and accordingly, they have not been made. Consequently, the relative merit of the two Plans should be based on comparison in densely populated areas such as the Northeastern part of the Country.

In the comments filed with the Commission, May 7, 1951, Du Mont included a tabulation of its Allocation Plan. This tabulation consists of the entire VHF Plan and the UHF Plan for the Northeastern part of the Country. Since that time, the UHF Plan has been completed for the remainder of the Country and is tabulated herein. However, the project of obtaining a solution for the UHF allocations problem through the use of the high-speed digital computer at the Massachusetts Institute of Technology is continuing. In the event that this experiment proves successful, the channel numbers, and in some cases, the total UHF assignments for certain cities under the Du Mont Plan, will be subject to revision.

The 320 cities listed in the last two tabulations of this Volume were obtained from three separate sources as follows:

a) Sales Management's "Survey of Buying Power 1949"

b) The 1950 United States Census

c) Television Service Area Population Count

These three sources of information were combined to form what we consider to be a representative list of the top 320 television service areas of the United States.

In previous Du Mont releases concerning allocations, we used slightly different ranking for certain of these 320 cities. In one case, the 1950 Census was used and the summary tabulations were slightly different than those in this Volume. However, we feel that the listing used herein more nearly approximates the actual television service areas than that obtainable from other sources.

COMPARISON OF F.C.C. AND DU MONT ALLOCATION PLANS

City	F.C.C. Proposed Allocation Plan		Du Mont Proposed Allocation Plan	
	VHF	UHF	VHF	UHF
ALABAMA				
Andalusia	-	29	-	23
Anniston	-	37	10	56
Auburn	-	56*	-	28
Bessemer	-	54	-	24
Birmingham	6,10*,13	42,48	2,4,7,13	14,19
Brewton	-	23	-	31
Clanton	-	14	-	30
Cullman	-	60	-	43
Decatur	-	23	-	15
Demopolis	-	18	-	40
Dothan	9	19	2	57
Enterprise	-	40	-	55
Eufaula	-	44	-	60
Florence	-	41	3	38
Fort Payne	-	19	-	18
Gadsden	-	15,21	-	48,59,64
Greenville	-	49	-	65
Guntersville	-	40	-	23
Huntsville	-	31	-	26
Jasper	-	17	-	35

City	F.C.C.Proposed Allocation Plan		Du Mont Proposed Allocation Plan	
	VHF	UHF	VHF	UHF
ALABAMA (Cont'd)				
Mobile	5,8	42*,48	3,5,8,13	59
Montgomery	12	20,26*,32	12	36,49,52
Opelika	-	22	-	44
Sheffield	-	47	-	62
Selma	-	58	-	27
Sylacauga	-	24	-	61
Talladega	-	64	-	53
Thomasville	-	27	-	51
Troy	-	38	-	47
Tuscaloosa	-	45,51	11	32
Tuskegee	-	16	-	26
University	7*	-	-	42
ARIZONA				
Ajo	-	14	-	28
Bisbee	-	15	-	41
Casa Grande	-	18	-	20
Clifton	-	25	-	33
Coolidge	-	30	-	23
Douglas	3	-	7	-
Eloy	-	24	-	26
Flagstaff	9,11	-	10,12	-
Globe	-	34	-	18
Holbrook	-	14	-	28
Kingman	6	-	8	-

ALLEN B. DU MONT LABORATORIES, INC.
Research Division Passaic, N. J.

Du Mont Ref. Code #
F.C.C. Exh. #

May 22, 1951
File 12.4.0.20/30

COMPARISON OF F.C.C. AND DU MONT ALLOCATION PLANS (CITIES LISTED BY RANK)

Educational Assignments Shown as Follows: 2*

Rank	Service Areas	Code		F.C.C. Proposed Channels March 22, 1951								Du Mont Proposed Channels May 7, 1951				
						Quantity								Quantity		
				VHF	UHF	VHF Comm.	VHF Total	UHF Comm.	UHF Total	Total Comm.	Total	VHF	UHF	VHF Total	UHF Total	Total
1	New York City, N. Y.	Q14		2,4,5,7, 9,11,13	19,25*,31	7	7	2	3	9	10	2,4,5,7 9,11,13	19,62	7	2	9
2	Chicago, Ill.	Q 6		2,5,7,9 11*	20,26,32, 38,44	4	5	5	5	9	10	2,4,5,7,9	26,38,60	5	3	8
3	Los Angeles, Cal.	J 2		2,4,5,7, 9,11,13	22,28*,34	7	7	2	3	9	10	2,4,5,7 9,11,13	43,53,56	7	3	10
4	Philadelphia, Pa.	L16		3,6,10	17,23,29, 35*	3	3	3	4	6	7	3,6,10	25,63	3	2	5
5	Boston, Mass.	K15		2*,4,5,7	44,50,56	3	4	3	3	6	7	2,4,5,7,9	44,57	5	2	7
6	Windsor, Ont. Detroit, Mich.	R 5		2,4,7,9	32,38 50,56*,62	4	4	4	5	8	9	2,6,7,13	20,23,26	4	3	7
7	Pittsburgh, Pa.	F18		2,11,13*	47,53	2	3	2	2	4	5	2,7,11,13	15,26	4	2	6
8	San Francisco, Cal.	E 3		2,4,5,7, 9*	20,26,32, 38,44	4	5	5	5	9	10	2,4,5,7, 11	44,55,57	5	3	8
9	St. Louis, Mo.	Q 9		4,5,9*,11	30,36,42	3	4	3	3	6	7	3,5,7,9, 11	46,64	5	2	7
10	Cleveland, Ohio	B17		3,5,8	19,25*	3	3	1	2	4	5	4,5,9,12	27,40	4	2	6
11	Washington, D, C.	P20		4,5,7,9	20,26*	4	4	1	2	5	6	4,5,7,9	27,32,56	4	3	7
12	Baltimore, Md.	M14		2,11,13	18,24*,30	3	3	2	3	5	6	2,11,13	60,43,62	3	3	6
13	Minneapolis, Minn. St. Paul, Minn.	K12		2*,4,5,9, 11	17,23	4	5	2	2	6	7	4,5,7,9,11	17,41	5	2	7
14	Buffalo, N. Y. Niagara Falls, N. Y.	J20		2,4,7	17,23*	3	3	1	2	4	5	4,7,11,13	21,33,63	4	3	7
15	Milwaukee, Wisc.	M 7		4,10*,12	19,25,31	2	3	3	3	5	6	3,6,11,13	28,31	4	2	6
16	Cincinnati, Ohio	H14		5,9,12	48*,54	3	3	1	2	4	5	2,4,7,11	18,20,51	4	3	7
17	Kansas City, Mo.	G13		4,5,9*	19,25	2	3	2	2	4	5	2,4,10,12	16,37,41	4	3	7
18	Houston, Tex.	J 7		2,8*,13	23,29	2	3	2	2	4	5	2,5,8,10	35,40	4	2	6
19	Portland, Ore.	P 2		6,8,10*,12	21,27	3	4	2	2	5	6	3,6,8,10	48,59	4	2	6
20	Providence, R. I.	M14		10,12	16,22*	2	2	1	2	3	4	12	36,47,52	1	3	4
21	Dallas, Tex.	M13		4,8,13*	23,29	2	3	2	2	4	5	4,8,10,12	50,54	4	2	6
22	Seattle, Wash.	B 2		4,5,7,9*	20,26	3	4	2	2	5	6	2,4,5,7,13	52,65	5	2	7
23	New Orleans, La.	K 8		2*,4,6,7	20,26,32	3	4	3	3	6	7	4,6,7,9	22,32,43	4	3	7
24	Hartford, Conn. New Britain, Conn.	H19			18,24,30			3	3	3	3		48,59,61,64		4	4
25	Atlanta, Ga.	C 7		2,5,11	30*,36	3	3	1	2	4	5	3,5,8,11	42,62	4	2	6
26	Norfolk, Portsmouth, Newport News, Va.	M17		10,12	15,21*,27, 33	2	2	3	4	5	6	2,8,10,12	19,58,62	4	3	7
27	Louisville, Ky.	C13		3,11	15*,21	2	2	1	2	3	4	9,12	23,28,34	2	3	5
28	Wilkes-Barre, Pa. Scranton, Pa.	H16			16,22,28,34			4	4	4	4		36,47,49,52		4	4
29	San Diego, Cal.	G 3		3*,8,10	21,27,33	2	3	3	3	5	6	3,6,8,10	16,33	4	2	6
30	Indianapolis, Ind.	K10		6,8,13*	20,26	2	3	2	2	4	5	3,6,8	47,52	3	2	5
31	Worcester, Mass.	K17			14,20			2	2	2	2		23,26,28		3	3
32	Birmingham, Ala.	R 8		6,10*,13	42,48	2	3	2	2	4	5	2,4,7,13	14,19	4	2	6
33	Youngstown, Ohio	H15			27,33			2	2	2	2		44,57		2	2
34	Bridgeport, Conn.	C20			43,49			2	2	2	2		30,32		2	2
35	Albany, Troy, Schenectady, N. Y.	P14		6	17*,23	1	1	1	2	2	3	3,6,10	29	3	1	4
36	Akron, Ohio	G18			49,55*,61			2	3	2	3		14,35,48		3	3
37	Denver, Colo.	Q 4		2,4,6*,7	20,26	3	4	2	2	5	6	2,4,6,7	28,39	4	2	6
38	Columbus, Ohio	D12		4,6,10	34*,40	3	3	1	2	4	5	3,6,10	23,25	3	2	5

ALLEN B. DU MONT LABORATORIES, INC.
Research Division Passaic, N. J.

May 22, 1951
File 12.4.0.20/30

Du Mont Ref. Code #_____
F.C.C. Exh. #_____

COMPARISON OF F.C.C. AND DU MONT ALLOCATION PLANS (CITIES LISTED BY RANK)

Educational Assignments Shown as Follows: 2*

Rank	Service Areas	Code		F.C.C. Proposed Channels March 22, 1951								Du Mont Proposed Channels May 7, 1951				
				VHF	UHF	Quantity						VHF	UHF	Quantity		
						VHF Comm.	VHF Total	UHF Comm.	UHF Total	Total Comm.	Total			VHF Total	UHF Total	Total
39	Rochester, N. Y.	Q18		5,10	15,21*,27	2	2	2	3	4	5	3,6,10	34,55,61	3	3	6
40	Easton, Allentown, Bethlehem, Pa.	Q20			39,45,51,57			4	4	4	4		23,44,55,65		4	4
41	Holyoke, Mass. Springfield, Mass.	J16			55,61			2	2	2	2		15,18,31		3	3
42	San Antonio, Tex.	K 5		4,5,9*,12	35,41	3	4	2	2	5	6	2,4,5,8	47,65	4	2	6
43	Memphis, Tenn.	K11		5,10*,13	42,48	2	3	2	2	4	5	4,7,11,13	35,51,53	4	3	7
44	Miami, Fla.	C16		2*,4,7,10		3	4			3	4	4,5,7,11	44,55	4	2	6
45	Fall River, Mass. New Bedford, Mass.	H18			28,34,40,46			4	4	4	4		19,39,49,65		4	4
46	Toledo, Ohio	E 6		11,13	30*	2	2		1	2	3	11	18,47,52	1	3	4
47	Dayton, Ohio	A11		2,7	16*,22	2	2	1	2	3	4	5,13	42,54	2	2	4
48	St. Petersburg, Fla. Tampa, Fla.	G19		3*,8,10,13		3	4			3	4	3,6,7,11		4		4
49	Council Bluffs, Neb. Omaha, Neb.	L 9		3,6,7*	16,22,28	2	3	3	3	5	6	3,6,9,11	26,39	4	2	6
50	Fort Worth, Tex.	L 5		5,10	20,26*	2	2	1	2	3	4	2,5	48,59	2	2	4
51	Oklahoma City, Okla.	Q 3		7,9,13*	19,25	2	3	2	2	4	5	4,5,7,10	48,59	4	2	6
52	Syracuse, N. Y.	L20		3,8	43*	2	2		1	2	3	5,8	15,18,20	2	3	5
53	Richmond, Va.	K14		3,6	23*,29	2	2	1	2	3	4	3,6	48,59	2	2	4
54	Jacksonville, Fla.	P16		4,7*,12	30,36	2	3	2	2	4	5	2,4,10,12	58,62	4	2	6
55	Nashville, Tenn.	M10		2*,4,8	30,36	2	3	2	2	4	5	4,7,11,13	44,47	4	2	6
56	Phoenix, Ariz.	A 2		4,5,8*,10		3	4			3	4	4,5,7,9		4		4
57	Canton, Ohio	G16			29			1	1	1	1		22,65		2	2
58	Utica, Rome, N. Y.	K18		13	19,25*	1	1	1	2	2	3	2,4,11,13	43,59	4	2	6
59	Fresno, Cal.	E 1		12	18*,24	1	1	1	2	2	3	2,4,5,7		4		4
60	Grand Rapids, Mich.	E11		8	17*,23	1	1	1	2	2	3	8	25,50,55	1	3	4
61	San Bernardino, Cal.	A 3			18,24*,30			2	3	2	3		14,19,24,30		4	4
62	San Jose, Cal.	N 2		11	48,54*,60	1	1	2	3	3	4	9	15,18,31	1	3	4
63	Salt Lake City, Utah	M 2		4,5,7*	20,26	2	3	2	2	4	5	4,5,8,11	20,26	4	2	6
64	Flint, Mich.	F11		12	16,22*,28	1	1	2	3	3	4		48,54,58,64		4	4
65	Superior, Wisc. Duluth, Minn.	C14		3,6,8*	32,38	2	3	2	2	4	5	3,6,8,12	44,57	4	2	6
66	Sacramento, Cal.	G 2		6,10	40*,46	2	2	1	2	3	4	3,6,8,10		4		4
67	Wilmington, Del.	A15		12	53,59*	1	1	1	2	2	3	12	37,41,54	1	3	4
68	New Haven, Conn.	L19		8	59	1	1	1	1	2	2	8	22,24,43	1	3	4
69	Reading, Pa.	C19			55,61			2	2	2	2		28,31		2	2
70	Charleston, W. Va.	G17		3	43*,49	1	1	1	2	2	3	12	44,55,57	1	3	4
71	Tulsa, Okla.	L11		2,4*,6	17,23	2	3	2	2	4	5	6,8,11,13	36,47	4	2	6
72	Lowell, Lawrence, Haverhill, Mass.	J14			32,38			2	2	2	2		34,46,63		3	3
73	Saginaw, Mich. Bay City, Mich.	S 9			51,57,63			3	3	3	3	5,9	37,46	2	2	4
74	Johnstown, Pa.	M17		6	56	1	1	1	1	2	2	6	36,49,52	1	3	4
75	Mobile, Ala.	G14		5,8	42*,48	2	2	1	2	3	4	3,5,8,13	59	4	1	5
76	Davenport, Moline, Rock Island, Ill.	H 6		4,6	30*,36,42	2	2	2	3	4	5	3,6,11,13	24,48	4	2	6